Research Article

Prevalence of obesity among first-year medical students of Government Medical College, Bhavnagar

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Abstract

Background: Globally, there is a rapid change in disease profiles drawing the consideration of both medical professionals and policymakers similarly, in particular, very factual in low- and middle-income countries. The emerging epidemic of obesity has become serious public health concern, particularly in adolescents. Therefore, the knowledge regarding obesity and its consequences is necessary among adolescents.

Objective: To assess the prevalence of obesity and the effect of various risk factors on obesity among first-year medical students of Government Medical College, Bhavnagar, Gujarat, India.

Materials and Methods: A cross-sectional study was conducted among 130 first-year medical students of Government Medical College, Bhavnagar, during November 1 to 30, 2013. Data were collected by face-to-face interview by using a predesigned prestructured questionnaire. Anthropometric measurement such as height and weight were measured and body mass index (BMI) was calculated.

Result: The prevalence of obesity was 11.53% in study population. It was higher among boys compared with girls and higher among socioeconomical class II (73.33%). There were 7.70% person among study population with sedentary lifestyle, and 34.60% study population did not have any knowledge about BMI and obesity.

Conclusion: The increasing trend of the modern day epidemic of obesity in adolescent age calls for immediate action to reduce the incidence of noncommunicable disease in future.

KEY WORDS: Body mass index, height, medical students, obesity, weight

Introduction

In India, the attraction of health workers was undernutrition, because the obesity in children and adolescents was seldom noted. However,during the recent years, the rate of obesity in children and adolescents is progressively being noted with the altered lifestyle of families with enhanced purchasing power, elevated hours of inactivity because of television, video games, and computers, which have substituted outdoor games and other social activities.[1] Obesity can be noted as the initial wave of a defined group of noncommunicable diseases called “new world syndrome,” generating a huge socioeconomic and public health burden in low- and middle-income countries.[3] It is highly possible for obesity to persevere when its beginning is in late childhood or adolescence.[7] Mortality risk increases with increased weight of children.[8]

This study was undertaken to assess the prevalence of obesity and the effect of various risk factors on obesity among first-year medical students of Government Medical College, Bhavnagar.

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Materials and Methods

Data were collected by face-to-face interview by using a predesigned prestructured questionnaire. Anthropometric measurement such as height and weight were measured using

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the standard procedures recommended by Jelliffe,[9] and BMI was computed. Nutritional status based on BMI was evaluated and interpreted with Revised Indian Guideline.[10]

Data Analysis

Data were collected and entered and analyzed using Epi.Info 7 software version. Frequency and χ^2 test were used to analyze the data. A *p*-value <0.05 considered statistically significant.

According to Revised Indian Guideline, obesity is consider when BMI ≥ 25 kg/m^2, overweight is BMI 23.0–24.99 kg/m^2, and underweight is BMI ≤ 18.5 kg/m^2.[10]

Results

The prevalence of obesity was 11.53% in the study population and was higher among boys (7.69%) compared with girls (3.84%)[Figure 1].

There were 7.70% person among the study population with sedentary lifestyle; so, they are prone to become obese in future [Figure 4].

About 34.60% study population did not have any knowledge about BMI and obesity; so, there should be awareness program conducted in early age so that they can acquire enough knowledge and can prevent obesity development [Figure 5].

Table 1: Relation of various risk factors with obesity in study population

Variables	Obesity		*p*
	Present (%) (μ = 15)	Absent (%) (μ = 115)	
Doing exercise regularly			
Yes	10 (7.70)	50 (38.46)	0.155, not significant
No	5 (3.84)	65 (50)	
Eating junk food frequently			
Yes	12 (9.24)	29 (22.30)	<0.0001, significant
No	3 (2.30)	86 (66.16)	
Family history			
Present	11 (8.46)	15 (11.54)	<0.0001, significant
Absent	4 (3.08)	100 (76.92)	

Discussion

Deshpande et al.[11]reported the prevalenceof obesity to be 29% among medical undergraduate students of Ujjain, which is more than double to this study, and higher among boys(46.7%) compared with girls(43.6%). Thakkar et al.[10] reported that,according to Revised Indian Guidelines, the prevalenceof obesity was 23% among college girls in Agra District of Uttar Pradesh, which is also double to this study. Kotian et al.[12] reported the prevalence of obesity to be 4.8% and slightly higher among boys (5.2%) compared with-girls (4.3%).Aggarwal et al.[13] reported the prevalence of obesity in their study group to be 3.4%, with no significant difference between boys and girls.

Kotian et al.[12] revealed that the risk of obesity was two times higher among the adolescents of high socioeconomic class. Goyal et al.reported the prevalence of obesity to be higher in high socioeconomic status group when compared with middle socioeconomic status group. The prevalence of obesity in low socioeconomic status group was the lowest when compared with the other groups.[14] So, most of study revealed that obesity is more common in high socioeconomic class because of their food habits such as frequent fast food and outside food and because of their lifestyle of them such as watching television, playing computer game, and so on.

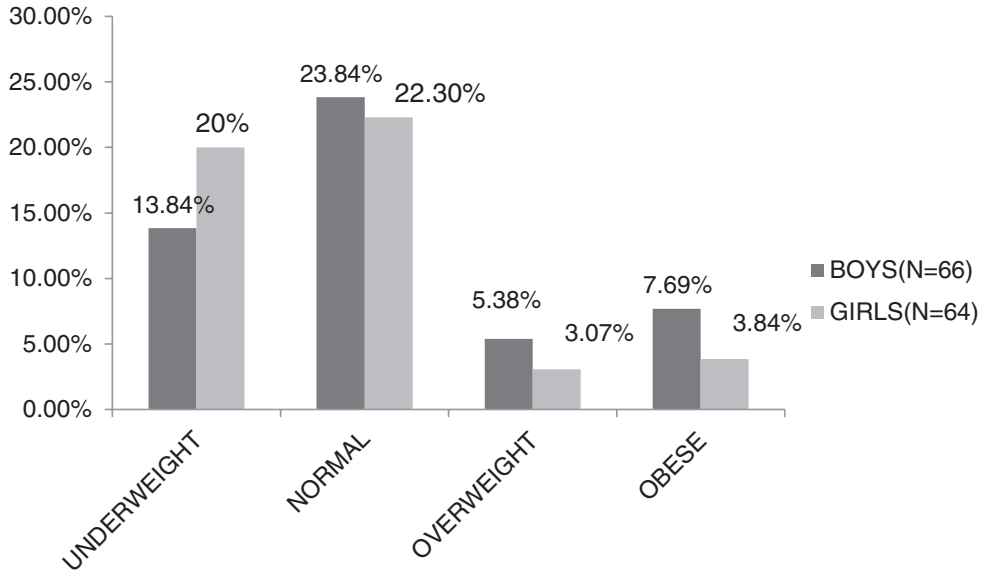

Figure 1: Distribution of study population according to BMI.

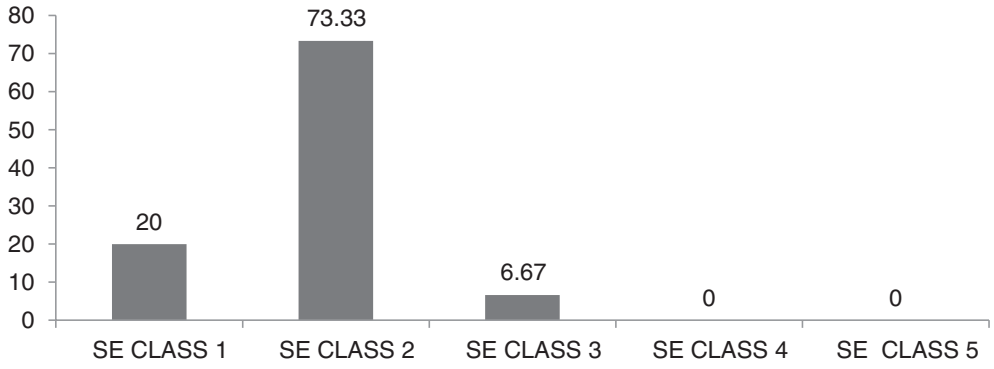

Figure 2: Distribution of obese persons (n = 15) according to socioeconomic class based on Kuppuswami classification.

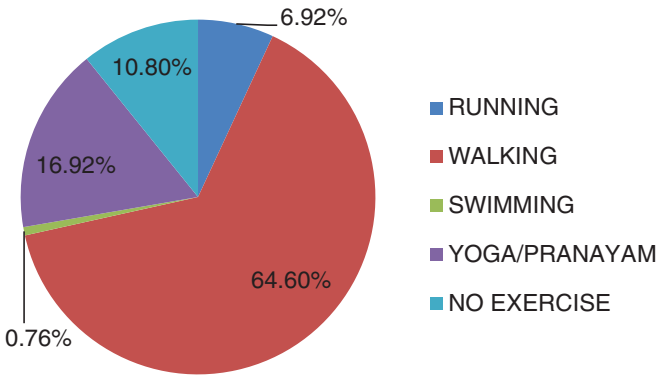

Figure 3: Type of exercise in study population.

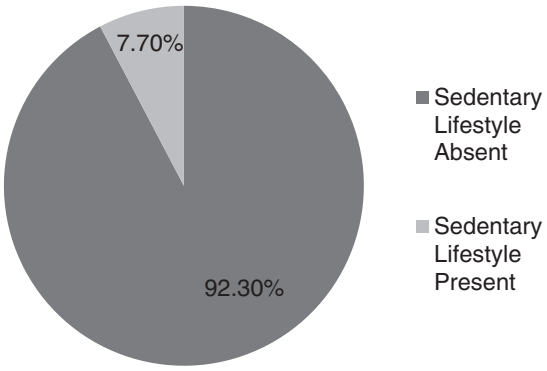

Figure 4: Lifestyle pattern of study population.

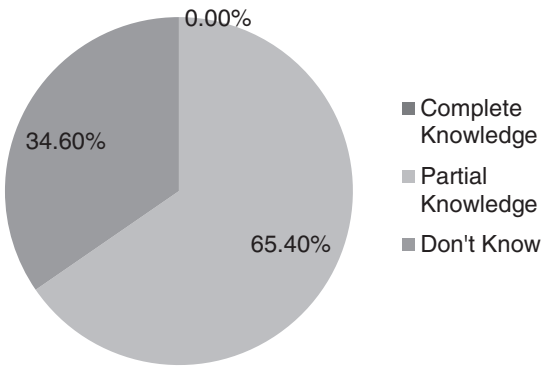

Figure 5: Knowledge about BMI in study population according to Likert scale.

Deshpande et al.[11] reported that 95.7% of study population revealed physical inactivity. Mehan et al.[15] reported that 45% of study population showed physical inactivity.

Deshpande et al.[11] reported that 94.2% of the study population to be frequent fast food eaters.Mehan et al.[15] reported that 42% of the study population showed frequent consumption of outside food.

Deshpande et al.[11] reported family history of hypertension, diabetes, heart disease, and obesity was present among 22.83% of the study population.

There were 7.70% person among study population with sedentary lifestyle; so, they are prone to become obese in future.Mehan et al.[15] reported that 41% of the study population showed sedentary activities such as watching television and playing computer games. Bharati et al.[6] reported that 11.9% of the study population practiced sedentary lifestyle.

College-going period is highly important in determining adult behavior. Timely identification and correction of food habits, along with motivation for regular physical activity, are recommended to prevent obesity.

Limitation of this study is that it is an institutional-based cross-sectional study; so, the results of this study do not apply to the community.

Conclusion

The result of the study revealed that prevalence of obesity was 11.53% among first-year medical students of Government Medical College, Bhavnagar. The prevalence of obesity was higher among boys compared with girls and higher among socioeconomical class II.Positive family history and consumption of junkfood are important risk factors for the development of obesity in the study population in this study.

References

1. Singh M, Sharma M. Risk factor for obesity in children. Indian Paediatr 2005;42:183–5.
2. Park K. Epidemiology of noncommunicable diseases: obesity. In: *Textbook of Preventive and Social Medicine*, 22nd edn,Chap. 6, Park K (Ed.). Jabalpur: Banarasidas Bhanot, 2013. pp. 367–70.
3. World Health Organization. *Obesity: Preventing and Managing the Global Epidemic*. Technical Report Series No. 894, Geneva: WHO, 2000.
4. Wong JP, Ho SY, Lai MK, Leung GM, Stewart SM, Lam TH. Overweight, obesity, weight-related concerns and behaviours in Hong Kong Chinese Children and adolescents. Acta Paediatr 2005;94:595–601.
5. *NFHS Key Findings Report, National Family Health Survey (NFHS)-3*. New Delhi: Ministry of Health and Family Welfare, Government of India. Available at: http://www.nfhsindia.org/nfhs3.html (last accessed on January 3, 2015).
6. Bharati DR, Deshmukh PR, Garg BS. Correlates of overweight & obesity among school going children of Wardha city, Central India. Indian J Med Res 2008;127:539–43.
7. Must A, Jacques PF, Dallal GE, Bagsma CJ, Dietz WH. Long term morbidity and mortality of overweight adolescents: a follow-up of the Harvard growth study of 1922 to 1935. N Engl J Med 1992;327:1350–5.
8. Freedman DS, Burke GL, Harsha DW, Srinivasan SR, Cresanta JL, Webber LS, et al. Relationship of changes in obesity to serum lipid and lipoprotein changes in childhood and adolescence. JAMA 1985;254:515–20.
9. Jelliffe DB. The assessment of the nutritional status of the community. Geneva: World Health Organization, 1988. pp. 193–7.
10. Thakkar HK, Misra SK, Gupta SC. Prevalence of obesity among college girls in Agra District of U.P. Indian J Community Health 2009–2010;21(2)–22(1):61–4.
11. Deshpande K, Patel S, Bhujade R, Deepak P. Lifestyle and obesity among medical college students in Ujjain, India. Natl J Community Med 2013;4(2):291–3.

12. Kotian MS, Kumar GS, Kotian SS. Prevalence and determinants of overweight and obesity among adolescent school children of south Karnataka, India. Indian J Community Med 2010;35(1):176–8.
13. Aggarwal T, Bhatia RC, Singh D, Sobti PC. Prevalence of obesity and overweight in affluent adolescents from Ludhiana, Punjab. Indian Pediatr 2008;45:500–2.
14. Goyal RK, Shah VN, Saboo BD, Phatak SR, Shah NN, Gohel MC, et al. Prevalence of overweight and obesity in Indian adolescent school going children: its relationship with socioeconomic status and associated lifestyle factors. J Assoc Physicians India 2010;58:151–8.
15. Mehan M, Munshi A, Somila S, Bhatt T, Kantharia N. Study of school environment and prevalence of obesity & its predictors among adolescent (10–13 years) belonging to a private school in an Urban Indian city. Natl J Community Med. 2012;3(3):400–7.

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